

REMARKS

Claims 1-49 are currently pending in the application, with claims 1, 2, 19, 43 and 44 being independent. Claims 1-46 were pending prior to the Office Action. In this Reply, claims 1, 2, 4, 19, 43 and 44 have been amended, and claims 47-49 have been added.

The Examiner is respectfully requested to reconsider the rejections in view of the amendments and remarks set forth herein. Applicant respectfully requests favorable consideration thereof in light of the amendments and comments contained herein, and earnestly seeks timely allowance of the pending claims.

Claim Rejections - 35 USC §102

The Examiner rejected claims 1, 3, 5, 11, 13, 15, 18 and 43 under 35 U.S.C. § 102(b) as being anticipated by US 6,137,535 ("Meyers").

This rejection is respectfully traversed.

Applicant has amended claim 1 to recite that the diameter or diagonal dimension of said aperture is smaller than the diameter or diagonal dimension of said one photoelectric conversion area, and is larger than a dimension of at least one segment.

Applicant has also amended claim 43 to recite that the diameter or diagonal dimension of said aperture is smaller than the diameter or diagonal dimension of said one photoelectric conversion area, and is larger than a dimension of at least one segment.

Meyers merely discloses a compact digital camera formed with a lenslet array 10 comprised of a plurality of lenslets 12, each lenslet having a decentration corresponding to its radial position in the lenslet array 10 so that the axial ray of each lenslet 12 views a different segment of a total field of view. A photosensor array 20 comprised of a plurality of sub-groups of photodetectors 22 is positioned such that each sub-group 22 is located along the axial ray of a respective lenslet 12. A field limiting baffle comprised of at least one aperture plate is positioned such that the center of the apertures are located along the axial ray of a respective lenslet (Abstract, Figs. 1B and 2).

With respect to claim 1, Meyers does not disclose a color solid-state image pickup device including a plurality of photoelectric conversion areas provided in an array pattern on a surface

of a semiconductor substrate, and a light-shielding film, [...] wherein an aperture in said light-shielding film corresponds to at least two of said segments in one of said photoelectric conversion areas, and wherein the diameter or diagonal dimension of said aperture is smaller than the diameter or diagonal dimension of said one photoelectric conversion area, and is larger than a dimension of at least one segment.

In Meyers, each sub-group of photodetectors 22 includes multiple photodetector elements 24 which correspond to colors red, green or blue (the R, G, B elements in Fig. 2). The lenslet array 10 is positioned over photosensor array 20 as illustrated in Fig. 2. The lenslet array 10 is maintained a distance apart from the surfaces of the photodetector elements 24 by spacers 70 that may also serve the function of being baffles. The opaque masks 16 on the lenslet array 10 combined with a field stop aperture plate 72 limits the field of view of any particular sub-group of photodetectors 22 so that it does not overlap the field of view of its neighbors by a large amount. A field stop aperture plate 72 is positioned at a distance from the surface of the lenslet array 10. The field stop aperture plate 72 may be a layer of clear glass having an opaque mask pattern formed on one of its surfaces (col. 5 line 43-col. 6 line 5, Fig. 2).

On page 2 of the Office Action, the Examiner stated that the opaque mask 16 is allegedly a light shielding film, and that the R, G and B elements allegedly represent a plurality of segments. If that were so (which Applicant does not admit), the diameter or diagonal dimension of any aperture in the opaque mask 16 is not smaller than the diameter or diagonal dimension of a sub-group of photodetectors 22 including elements R, G and B. This is clear from Fig. 2 of Meyers, where the diameter of an opening formed between two opaque mask pieces 16 is in fact larger than the diameter of one photodetector 22 including R, G and B elements. Furthermore, the diameter of an opening formed between two pieces of the field stop aperture plate 72 is also larger than the diameter of one photodetector 22 including R, G and B elements.

Therefore, Meyers fails to teach all of the elements for amended claim 1. Amended independent claim 43 defines over Meyers at least based on reasoning similar to that set forth above.

For all of the above reasons, taken alone or in combination, Applicant respectfully requests reconsideration and withdrawal of the 35 U.S.C. § 102 (b) rejection of claims 1 and 43.

Claims 3, 5, 11, 13, 15 and 18 depend from claim 1 and are allowable at least by virtue of their dependency.

Claim Rejections – 35 U.S.C. §103

Meyers and Itano Rejection

The Examiner rejected claims 4, 6, 7 and 12 under 35 U.S.C. § 103(a) as being unpatentable over Meyers in view of US 7139028 (“Itano”). Applicant traverses this rejection.

Applicant respectfully submits the Examiner has failed to establish a *prima facie* case of obviousness.

Applicant submits that the Examiner's reliance on Itano on page 5 of the Office Action as allegedly pertaining to incremental features of claims 4, 6, 7 and 12 fails to make up for the deficiencies of the asserted Meyers reference discussed above with respect to independent claim 1. Therefore, the asserted grounds of rejection fail to establish *prima facie* obviousness of claims 4, 6, 7 and 12 depending from claim 1.

The teachings of Meyers are presented above in the arguments traversing the §102 rejections of claim 1. As provided above in the arguments for the allowability of claim 1, Meyers fails to teach or suggest that the diameter or diagonal dimension of said aperture is smaller than the diameter or diagonal dimension of said one photoelectric conversion area, and is larger than a dimension of at least one segment.

On page 5 of the Office Action (bottom of page), The Examiner stated that Fig. 10 in Itano allegedly shows an aperture diameter being smaller than the diameter of the photoelectric conversion area. Applicant submits that Fig. 10 in Itano does not show an aperture diameter being smaller than the diameter of a photoelectric conversion area.

Assuming, arguendo, that Fig. 10 in Itano is competent to depict the relationship between a diameter or diagonal dimension of an aperture in a light-shielding film and a diameter or diagonal dimension of a photoelectric conversion area, Applicant respectfully submits the following. Fig. 10 in Itano is a sectional view of the solid state image pickup element illustrated in FIG. 8. The sectional view illustrates a photoelectric conversion unit 41, an interconnection layer 42, an insulating layer 43, a light-shielding layer 44, a passivation layer 45, a planarizing

layer 46, a G filter 47, an R filter 48, and a microlens 49. A diameter or diagonal dimension of an aperture in the light-shielding layer 44 is the distance between two portions 44 in Fig. 10 (without taking into account the layer 45 which is not part of the light shielding layer 44). A diameter or diagonal dimension of a photoelectric conversion unit 41 is the length of a portion 41 in Fig. 10. As can be seen in Fig. 10, the distance between two portions 44 of the light-shielding layer (the diameter or diagonal dimension of the aperture) is in fact slightly larger than the dimension of a photoelectric conversion unit 41 located under the aperture.

However, Applicant submits that Fig. 10 of Itano is insufficient to teach or suggest the proper relationship between a diameter or diagonal dimension of an aperture in a light-shielding film and a diameter or diagonal dimension of a photoelectric conversion area. M.P.E.P. 2125 states that proportions of features in a drawing are not evidence of actual proportions when drawings are not to scale. According to M.P.E.P. 2125, when the reference does not disclose that the drawings are to scale and is silent as to dimensions, arguments based on measurement of the drawing features are of little value. See *Hockerson-Halberstadt, Inc. v. Avia Group Int'l*, 222 F.3d 951, 956, 55 USPQ2d 1487, 1491 (Fed. Cir. 2000). In Fig. 10 of Itano, it is difficult to determine which one of the diameter of the aperture (a distance between two light-shielding layers portions 44) and the diameter of the photoelectric conversion unit 41 is larger. Itano does not explicitly describe specific sizes of the respective members or a size relationship among the respective members. Accordingly, Applicant submits that the Examiner's rejection does not conform to M.P.E.P. 2125 and is improper.

Hence, Itano does not disclose or suggest a color solid-state image pickup device including a plurality of photoelectric conversion areas provided in an array pattern on a surface of a semiconductor substrate, and a light-shielding film, [...] wherein an aperture in said light-shielding film corresponds to at least two of said segments in one of said photoelectric conversion areas, and wherein the diameter or diagonal dimension of said aperture is smaller than the diameter or diagonal dimension of said one photoelectric conversion area, and is larger than a dimension of at least one segment as recited in claim 1.

For all of the above reasons, taken alone or in combination, Applicant respectfully requests reconsideration and withdrawal of the 35 U.S.C. § 103 (a) rejection of claims 4, 6, 7 and 12 depending from claim 1.

Meyers and Sonoda Rejection

The Examiner rejected claims 2, 19, 20, 22-25, 31, 33, 35, 38, 39, 40, 42, 44 and 45 under 35 U.S.C. § 103(a) as being unpatentable over Meyers in view of US 2002/0113888 ("Sonoda"). Applicant traverses this rejection.

Applicant respectfully submits the Examiner has failed to establish a *prima facie* case of obviousness.

Applicant has amended claim 2 to recite transfer channels, for transferring said signal electric charges read from a plurality of said segments, are formed beside said photoelectric conversion areas, said transfer channels extending along perimeters of said photoelectric conversion areas that are partitioned into said plurality of segments which store said signal electric charges of different spectral sensitivities.

Applicant has also amended claim 19 to recite that transfer channels, for transferring signal electric charges read from a plurality of said segments, are formed beside said photoelectric conversion areas, said transfer channels extending along perimeters of said photoelectric conversion areas.

Applicant has amended claim 44 to recite signal transfer means for transferring said electric charges read from a plurality of said segments through channels being formed beside said photoelectric conversion areas, said channels extending along perimeters of said photoelectric conversion areas.

To establish a *prima facie* case of obviousness, the Examiner has the burden of meeting the basic criterion that the prior art must teach or suggest all of the claim limitations.

Regarding this basic criterion, Meyers and Sonoda do not disclose or suggest transfer channels extending along perimeters of photoelectric conversion areas, or channels extending along perimeters of photoelectric conversion areas.

Meyers does not disclose or suggest transfer channels or channels as claimed in claims 2, 19 and 44. Meyers also does not disclose or suggest transfer channels extending along perimeters of photoelectric conversion areas, or channels extending along perimeters of photoelectric conversion areas. Hence, Meyers fails to teach or suggest all of the elements for claims 2, 19 and 44.

Sonoda merely discloses an image pickup apparatus including a pixel area including a plurality of pixels, and a substrate on which the pixel area is integrated, wherein the centers of the pixel area and substrate substantially coincide with each other (Abstract).

On page 8 of the Office Action, the Examiner stated that Sonoda allegedly teaches transfer channels in Fig. 5. Fig. 5 illustrates the vicinity of the pixel area 103 from FIG. 2. In FIG. 5, vertical output lines 705 are used to read out outputs from pixel groups 102a to 102d. Amplifiers 201 are connected to the vertical output line 705 to amplify outputs read out from the pixel groups 102a to 102d. The output lines 705 reach the horizontal shift registers 203 (paragraph [0046]).

The output lines 705 in Sonoda are not channels or transfer channels extending along perimeters of pixel groups 102. As illustrated in Fig. 5, output lines 705 are perpendicular to perimeters of pixel groups 102 a, 102b, 102c or 102d. The output lines 705 do not extend along perimeters of pixel groups 102.

Hence, Sonoda fails to teach or suggest all of the elements for claims 2, 19 and 44.

For all of the above reasons, taken alone or in combination, Applicant respectfully requests reconsideration and withdrawal of the 35 U.S.C. § 102 (a) rejection of claims 2, 19 and 44. Claim 45 depends from claim 2 and is allowable at least by virtue of its dependency. Claims 20, 22-25, 31, 33, 35, 38, 39, 40 and 42 depend from claim 19 and are allowable at least by virtue of their dependency.

Meyers, Itano and Suzuki Rejection

The Examiner rejected claims 8-10 under 35 U.S.C. § 103(a) as being unpatentable over Meyers in view of Itano further in view of US 6,933,972 ("Suzuki et al."). Applicant traverses this rejection.

Applicant respectfully submits the Examiner has failed to establish a *prima facie* case of obviousness.

Claims 8-10 depend from claim 1. Applicant submits that the Examiner's reliance on Itano and Suzuki on page 11 of the Office Action as allegedly pertaining to incremental features of claims 8-10 fails to make up for the deficiencies of the asserted Meyers reference discussed above with respect to independent claim 1. Therefore, the asserted grounds of rejection fail to establish *prima facie* obviousness of claims 8-10.

The teachings of Meyers are presented above in the arguments traversing the §102 rejections of claim 1. As provided above in the arguments for the allowability of claim 1, Meyers fails to teach or suggest that the diameter or diagonal dimension of said aperture is smaller than the diameter or diagonal dimension of said one photoelectric conversion area, and is larger than a dimension of at least one segment as recited in claim 1.

The teachings of Itano are presented above in the arguments traversing the §103 rejection of claim 6 depending from claim 1. As provided above, Itano fails to teach or suggest that the diameter or diagonal dimension of said aperture is smaller than the diameter or diagonal dimension of said one photoelectric conversion area, and is larger than a dimension of at least one segment as recited in claim 1.

Suzuki et al. merely discloses a MOS type image pickup device having a pixel interleaved array layout and one analog to digital conversion unit provided per each pair of adjacent photoelectric conversion columns. A number of photoelectric conversion elements are disposed in a plurality of rows and columns in a pixel shift layout, and an analog/digital conversion unit is provided per two photoelectric conversion element columns to form a MOS type solid-state image pickup device. (Abstract)

Suzuki et al. does not disclose or suggest a light-shielding film [...] wherein an aperture in said light-shielding film corresponds to at least two segments in a photoelectric conversion area, and wherein the diameter or diagonal dimension of said aperture is smaller than the diameter or diagonal dimension of the photoelectric conversion area, and is larger than a dimension of at least one segment. Hence, Suzuki et al. fails to teach or suggest all of the elements for claim 1.

For all of the above reasons, taken alone or in combination, Applicant respectfully requests reconsideration and withdrawal of the 35 U.S.C. § 103 (a) rejection of claims 8-10.

Meyers and Tabei Rejection

The Examiner rejected claim 14 under 35 U.S.C. § 103(a) as being unpatentable over Meyers in view of US 5063439 ("Tabei"). Applicant traverses this rejection.

Applicant respectfully submits the Examiner has failed to establish a *prima facie* case of obviousness.

Claim 14 depends from claim 1. Applicant submits that the Examiner's reliance on Tabei on page 13 of the Office Action as allegedly pertaining to incremental features of claim 14 fails to make up for the deficiencies of the asserted Meyers reference discussed above with respect to independent claim 1. Therefore, the asserted grounds of rejection fail to establish *prima facie* obviousness of claims 14.

The teachings of Meyers are presented above in the arguments traversing the §102 rejections of claim 1. As provided above in the arguments for the allowability of claim 1, Meyers fails to teach or suggest that the diameter or diagonal dimension of said aperture is smaller than the diameter or diagonal dimension of said one photoelectric conversion area, and is larger than a dimension of at least one segment as recited in claim 1.

Tabei merely discloses a solid state pickup system having improved color reproducibility characteristics. The solid state pickup system uses additional photodetector elements to produce color signals including wavelength components in areas of negative stimulus values. These color signals are subtracted from conventionally produced color signals, such conventionally produced color signals being incapable of representing the negative stimulus values. The algebraic difference between the color signals resulting from the subtraction operation results in a color signal adequately represented in a wider range of wavelength characteristics, including the negative stimulus values, to improve color reproducibility (Abstract).

Tabei does not discuss photoelectric conversion areas for which the inside is two-dimensionally partitioned into a plurality of segments which output a plurality of photoelectric conversion signals of different spectral sensitivities. Tabei also does not discuss light-shielding

films. Hence, Tabei does not discuss a light-shielding film [...] wherein an aperture in said light-shielding film corresponds to at least two segments in a photoelectric conversion area, and wherein the diameter or diagonal dimension of said aperture is smaller than the diameter or diagonal dimension of the photoelectric conversion area, and is larger than a dimension of at least one segment. Hence, Tabei fails to teach or suggest all of the elements for claim 1.

For all of the above reasons, taken alone or in combination, Applicant respectfully requests reconsideration and withdrawal of the 35 U.S.C. § 103 (a) rejection of claim 14.

Meyers and Usui Rejection

The Examiner rejected claims 16-17 under 35 U.S.C. § 103(a) as being unpatentable over Meyers in view of US 5055921 (“Usui”). Applicant traverses this rejection.

Applicant respectfully submits the Examiner has failed to establish a *prima facie* case of obviousness.

Claims 16-17 depend from claim 1. Applicant submits that the Examiner's reliance on Usui on page 14 of the Office Action as allegedly pertaining to incremental features of claims 16-17 fails to make up for the deficiencies of the asserted Meyers reference discussed above with respect to independent claim 1. Therefore, the asserted grounds of rejection fail to establish *prima facie* obviousness of claims 16-17.

The teachings of Meyers are presented above in the arguments traversing the §102 rejections of claim 1. As provided above in the arguments for the allowability of claim 1, Meyers fails to teach or suggest that the diameter or diagonal dimension of said aperture is smaller than the diameter or diagonal dimension of said one photoelectric conversion area, and is larger than a dimension of at least one segment as recited in claim 1.

Usui merely discloses a color reading line sensor including sensor arrays each comprising a plurality of sensor elements with color filter elements. These sensor arrays are aligned in a direction normal to a sensor array direction, and the size of a particular color sensor element in a direction normal to the sensor array direction is set to be larger than that of the other color sensor element in the same direction (Abstract).

Usui does not discuss light-shielding films. Hence, Usui does not disclose or suggest a light-shielding film [...] wherein an aperture in said light-shielding film corresponds to at least two segments in a photoelectric conversion area, and wherein the diameter or diagonal dimension of said aperture is smaller than the diameter or diagonal dimension of the photoelectric conversion area, and is larger than a dimension of at least one segment. Hence, Usui fails to teach or suggest all of the elements for claim 1.

For all of the above reasons, taken alone or in combination, Applicant respectfully requests reconsideration and withdrawal of the 35 U.S.C. § 103 (a) rejection of claims 16-17.

Meyers, Sonoda and Itano Rejection

The Examiner rejected claims 21, 26-27, 32, and 46 under 35 U.S.C. § 103(a) as being unpatentable over Meyers in view of Sonoda further in view of Itano. Applicant traverses this rejection.

Applicant respectfully submits the Examiner has failed to establish a *prima facie* case of obviousness.

Claims 21, 26-27 and 32 depend from claim 19. Claim 46 depends from claim 2. Applicant submits that the Examiner's reliance on Itano on pages 15 and 19 of the Office Action as allegedly pertaining to incremental features of claims 21, 26-27, 32 and 46 fails to make up for the deficiencies of the asserted Meyers and Sonoda references discussed above with respect to independent claims 2 and 19. Therefore, the asserted grounds of rejection fail to establish *prima facie* obviousness of claims 21, 26-27, 32 and 46.

The teachings of Meyers and Sonoda are presented above in the arguments traversing the §103 rejections of claims 2 and 19. As provided above in the arguments for the allowability of claim 19, Meyers and Sonoda fail to teach or suggest transfer channels, for transferring signal electric charges read from a plurality of said segments, being formed beside said photoelectric conversion areas, said transfer channels extending along perimeters of said photoelectric conversion areas, as recited in claim 19. Meyers and Sonoda also fail to teach or suggest transfer channels, for transferring said signal electric charges read from a plurality of said segments, are formed beside said photoelectric conversion areas, said transfer channels extending along

perimeters of said photoelectric conversion areas that are partitioned into said plurality of segments which store said signal electric charges of different spectral sensitivities, as recited in claim 2.

Itano does not disclose or suggest transfer channels, for transferring signal electric charges read from a plurality of segments, being formed beside photoelectric conversion areas, the transfer channels extending along perimeters of the photoelectric conversion areas. Itano only discloses signal lines 912 which are perpendicular to perimeters of image pickup areas 901 (Fig. 14). The signal lines 912 do not extend along perimeters of image pickup areas 901.

Hence, Itano fails to teach or suggest all of the elements for claims 2 and 19.

For all of the above reasons, taken alone or in combination, Applicant respectfully requests reconsideration and withdrawal of the 35 U.S.C. § 103 (a) rejection of claims 21, 26-27, 32 and 46.

Meyers, Sonoda, Itano and Suzuki Rejection

The Examiner rejected claims 28-30 under 35 U.S.C. § 103(a) as being unpatentable over Meyers in view of Sonoda further in view of Itano and Suzuki. Applicant traverses this rejection.

Applicant respectfully submits the Examiner has failed to establish a *prima facie* case of obviousness.

Claims 28-30 depend from claim 19. Applicant submits that the Examiner's reliance on Suzuki on page 17 of the Office Action as allegedly pertaining to incremental features of claims 28-30 fails to make up for the deficiencies of the asserted Meyers, Sonoda and Itano references discussed above with respect to independent claim 19. Therefore, the asserted grounds of rejection fail to establish *prima facie* obviousness of claim 28-30.

The teachings of Meyers, Sonoda and Itano are presented above in the arguments traversing the §103 rejections of claims 19 and 26. As provided above in the arguments for the allowability of claims 19 and 26, Meyers, Sonoda and Itano fail to teach or suggest transfer channels, for transferring signal electric charges read from a plurality of said segments, being formed beside said photoelectric conversion areas, said transfer channels extending along perimeters of said photoelectric conversion areas, as recited in claim 19.

Suzuki does not disclose or suggest transfer channels, for transferring signal electric charges read from a plurality of segments, being formed beside photoelectric conversion areas, the transfer channels extending along perimeters of the photoelectric conversion areas. For example, in FIG. 2 (which illustrates details for FIG. 1A), FIG. 6, FIG. 10 (which illustrates details for FIG. 9) and FIG. 11 of Suzuki et al., output signal lines 30 and row select signal wiring lines 25 are connected to each switching circuit unit 20 (or switching circuit units 120 in FIGS. 10 and 11) provided for each photoelectric conversion element 10. As it can be seen in FIGS. 2, 6, 10 and 11, the output signal lines 30 and row select signal wiring lines 25 meander through and in between switching circuit units 20. No collection of switching circuit units 20 can form a photoelectric conversion area, for which transfer channels are formed beside photoelectric conversion areas, the transfer channels extending along perimeters of photoelectric conversion areas. This is so because output signal lines 30 and row select signal wiring lines 25 meander through and in between switching circuit units 20 (or 120) in such a way that any collection of switching circuit units 20 (or 120) would include at least one output signal line 30 and/or row select signal wiring line 25 passing through the collection of units 20. Hence, Suzuki et al. fails to teach or suggest all of the elements for claim 19.

For all of the above reasons, taken alone or in combination, Applicant respectfully requests reconsideration and withdrawal of the 35 U.S.C. § 103 (a) rejection of claims 28-30.

Meyers, Sonoda and Tabei Rejection; Meyers, Sonoda and Usui Rejection

The Examiner rejected claim 34 under 35 U.S.C. § 103(a) as being unpatentable over Meyers in view of Sonoda further in view of Tabei. The Examiner rejected claims 36-37 under 35 U.S.C. § 103(a) as being unpatentable over Meyers in view of Sonoda further in view of Usui. Applicant traverses this rejection.

Applicant respectfully submits the Examiner has failed to establish a *prima facie* case of obviousness.

Claims 34 and 36-37 depend from claim 19. Applicant submits that the Examiner's reliance on Tabei and Usui on page 18 of the Office Action as allegedly pertaining to incremental features of claims 34, 36 and 37 fails to make up for the deficiencies of the asserted

Meyers and Sonoda references discussed above with respect to independent claim 19. Therefore, the asserted grounds of rejection fail to establish *prima facie* obviousness of claim 34, 36 and 37.

The teachings of Meyers and Sonoda are presented above in the arguments traversing the §103 rejections of claim 19. As provided above in the arguments for the allowability of claim 19, Meyers and Sonoda fail to teach or suggest transfer channels, for transferring signal electric charges read from a plurality of said segments, being formed beside said photoelectric conversion areas, said transfer channels extending along perimeters of said photoelectric conversion areas, as recited in claim 19.

Tabei and Usui do not discuss transfer channels. Hence, Tabei and Usui do not disclose or suggest transfer channels, for transferring signal electric charges read from a plurality of segments, being formed beside photoelectric conversion areas, the transfer channels extending along perimeters of the photoelectric conversion areas. Hence, Tabei and Usui fail to teach or suggest all of the elements for claim 19.

For all of the above reasons, taken alone or in combination, Applicant respectfully requests reconsideration and withdrawal of the 35 U.S.C. § 103 (a) rejection of claims 34, 36 and 37.

Meyers and Sugimori Rejection

The Examiner rejected claim 41 under 35 U.S.C. § 103(a) as being unpatentable over Meyers in view of US 5289269 (“Sugimori”). Applicant traverses this rejection.

Applicant respectfully submits the Examiner has failed to establish a *prima facie* case of obviousness.

Claim 41 depends from claim 1. Applicant submits that the Examiner's reliance on Sugimori on page 18 of the Office Action as allegedly pertaining to incremental features of claim 41 fails to make up for the deficiencies of the asserted Meyers reference discussed above with respect to independent claim 1. Therefore, the asserted grounds of rejection fail to establish *prima facie* obviousness of claim 41.

The teachings of Meyers are presented above in the arguments traversing the §102 rejections of claim 1. As provided above in the arguments for the allowability of claim 1, Meyers

fails to teach or suggest that the diameter or diagonal dimension of said aperture is smaller than the diameter or diagonal dimension of said one photoelectric conversion area, and is larger than a dimension of at least one segment as recited in claim 1.

Sugimori merely discloses obtaining interlaced television signals from four image pickup devices. A luminance or green signal in the interlaced television signals consists of two interlaced channels. These two channel luminance or green signals are combined to produce the non-interlaced signal without modifying the driving frequency of the image pickup devices (Abstract).

Sugimori does not discuss photoelectric conversion areas for which the inside is two-dimensionally partitioned into a plurality of segments which output a plurality of photoelectric conversion signals of different spectral sensitivities. Sugimori also does not discuss light-shielding films. Hence, Sugimori does not disclose or suggest a light-shielding film [...] wherein an aperture in said light-shielding film corresponds to at least two segments in a photoelectric conversion area, and wherein the diameter or diagonal dimension of said aperture is smaller than the diameter or diagonal dimension of the photoelectric conversion area, and is larger than a dimension of at least one segment. Hence, Sugimori fails to teach or suggest all of the elements for claim 1.

For all of the above reasons, taken alone or in combination, Applicant respectfully requests reconsideration and withdrawal of the 35 U.S.C. § 103 (a) rejection of claim 41.

CONCLUSION

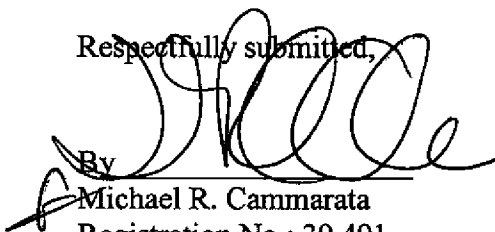
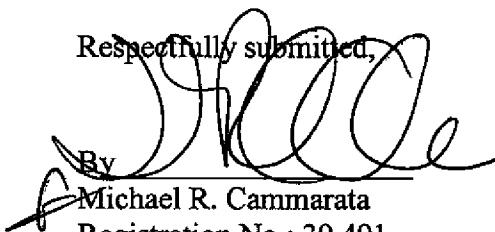
In view of the above amendments and remarks, this application appears to be in condition for allowance and the Examiner is, therefore, requested to reexamine the application and pass the claims to issue.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Corina E. Tanasa, Limited Recognition No. L0292 under 37 CFR §11.9(b), at telephone number (703) 208-4003, located in the Washington, DC area, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated: April 14, 2008

Respectfully submitted,


By 

Michael R. Cammarata

Registration No.: 39,491

BIRCH, STEWART, KOLASCH & BIRCH, LLP

8110 Gatehouse Road, Suite 100 East

P.O. Box 747

Falls Church, Virginia 22040-0747

(703) 205-8000

Attorney for Applicant

40,479